

BEFORE THE
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268-0001

PERIODIC REPORTING
(PROPOSAL FOUR)

Docket No. RM2017-8

FURTHER REPLY COMMENTS OF THE UNITED STATES
POSTAL SERVICE REGARDING PROPOSAL FOUR
(October 10, 2017)

On September 25, 2017, UPS submitted (with an accompanying motion for leave) a pleading styled as reply comments of UPS on Proposal Four. The pleading included arguments attempting to address criticisms advanced by the Postal Service in its August 16th reply comments regarding efforts by UPS to modify Proposal Four. In Order No. 4148 (October 5, 2017), the Commission granted the UPS motion for leave to file, and authorized the Postal Service to respond by October 12th. As explained below, the arguments advanced once again by UPS are flawed, and the Commission should reject the UPS attempt to modify Proposal Four.

A. UPS fails to address the instability in its proposed weights.

In its reply comments, the Postal Service correctly pointed out that there is a potential problem with UPS' proposed weights, because they are unstable and vary greatly from year to year. Postal Service Reply Comments at 5-6. The response of UPS is that the problem is not the instability in the weights, but the instability in the Form 3999 values. UPS Reply at 2-8. UPS appears to miss the Postal Service's point. UPS once again reiterates its original claim regarding the variation in the number of Form 3999 evaluations per month, but fails to address the flaws in its proposed weights.

UPS purports to be using the weights to correct for seasonal variation in the number of Form 3999 evaluations. See, e.g., UPS Reply Comments at 2, 3, 4. Yet seasonal weights are designed to offset seasonal variation in data. That is, they remove the regular seasonal pattern that can exist in economic data over the course of a year:¹

Seasonal adjustment is a statistical technique that attempts to measure and remove the influences of predictable seasonal patterns to reveal how employment and unemployment change from month to month.

Over the course of a year, the size of the labor force, the levels of employment and unemployment, and other measures of labor market activity undergo fluctuations due to seasonal events including changes in weather, harvests, major holidays, and school schedules. Because these seasonal events follow a more or less regular pattern each year, their influence on statistical trends can be eliminated by seasonally adjusting the statistics from month to month. These seasonal adjustments make it easier to observe the cyclical, underlying trend, and other nonseasonal movements in the series.

Note that seasonal adjustment is designed to remove the regular, predictable variation in a variable:²

One problem with interpreting data over time is that many data series exhibit movements that recur every year in the same month or quarter. For example, housing permits increase every spring when the weather improves, while toy sales usually peak in December. This dynamic makes it hard for economists to interpret the underlying trend in some data series. For instance, were sales better this December or was

¹ Bureau of Labor Statistics, "What Is Seasonal Adjustment?" <https://www.bls.gov/cps/seasfaq.htm>

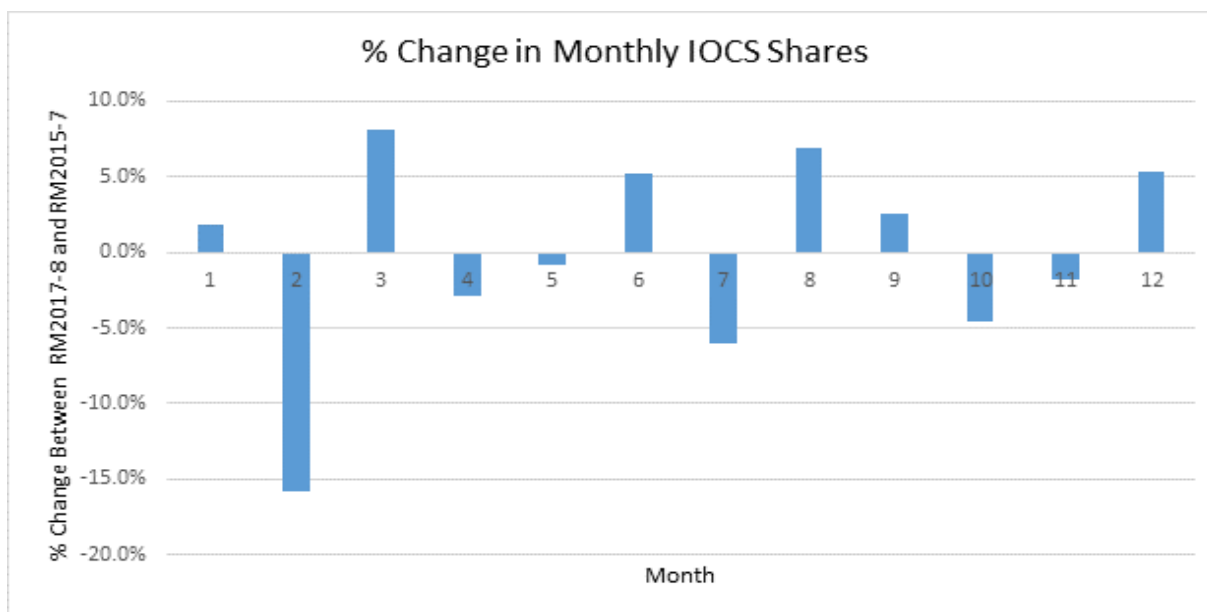
² Federal Reserve Bank of Dallas, "Seasonally Adjusting Data," <https://www.dallasfed.org/research/basics/seasonally.aspx>.

it just the usual holiday runup? Economists want to know if sales were better than the normal seasonal increase. To understand what the data are really saying about economic growth, statisticians and economists remove such predictable fluctuations—or seasonality—from the data. [Emphasis added].

By their very nature, seasonal adjustments are regular and predictable -- just the opposite of the proposed UPS measures. UPS appears to miss the point of seasonal adjustments --- to remove seasonal variation in order to smooth the data. By using an unstable “adjustment,” UPS potentially adds variation to the constructed data series rather than reducing it. In this particular iteration, the result of that instability is higher parcel costs, but there is no guarantee that result would continue in the future. In addition, the goal is to produce accurate costs for all products, so it is important to not lose focus of the possible impact of UPS’ proposed adjustment on other products. Cost pool proportions must add to unity, so increases in one or more cost pool proportions must be offset by corresponding decreases in other cost pools. In the instant docket, the proposed increases in the in-receptacle and deviation parcel cost pools are offset by decreases in the regular delivery time cost pool, which primarily addresses the delivery and collection of letters and flats. Accordingly, careful consideration must be given to any adjustments because each cost pool adjustment affects all products.

The other point that UPS avoids is the fact that the instability identified by the Postal Service is contained solely in the IOCS data. The large variation in UPS’ proposed weights identified by the Postal Service has nothing to do with the Form 3999 data, but rather shows how much the seasonal “weights” vary by themselves. The

relative values of the monthly shares produced by the Postal Service are shown in the following table:



The size of the monthly variation in the Form 3999 data is not the issue at hand; rather the issue is whether UPS's "seasonal weighting" scheme adds to or offsets the variation in those data. As the above chart demonstrates, there is large variation in the weights. This suggests that the proposed UPS adjustment could actually be increasing the variation in the Form 3999 variables, not reducing it.

B. The insistence by UPS that it is somehow correct to use the average of the ratios, rather than the ratio of the averages (or sums), is fundamentally incorrect.

The Postal Service pointed out that UPS mistakenly proposes applying newly-created weights to the ratios of parcel time, rather than applying the weights to the actual hours and then calculating the ratios of the weighted sums (or averages). Postal Service Reply Comments at 6-7. UPS attempts to rebut this accurate insight by making the perplexing and erroneous claim that applying weights to levels rather than ratios "doesn't correct anything." UPS Reply Comments at 9. A simple example

demonstrates both why UPS is wrong in its rebuttal point, and why it continues to be wrong in its original application. The calculations involved in this discussion are all provided in the Excel spreadsheet attached to this pleading electronically.

To keep the arithmetic simple, suppose we are examining quarterly data. Further suppose that, initially, we assume a scenario in which there is an equal distribution of observations across the four quarters and there are no errors in measurement.

Consider the following data:

	Q1	Q2	Q3	Q4
PA Hours	5	8	6	7
Total Hours	10	14	18	16
% PA Hours	50%	57%	33%	44%

The goal in this example, just as in the application of Form 3999 data in Proposal Four, is to find the annual ratio of PA Hours to Total Hours. The correct way to do this is to sum the PA Hours for the year (26), sum the Total Hours for the year (58) and find the resulting annual proportion (44.83 percent). This calculation unambiguously provides the correct answer.³

Now consider the UPS proposed approach. Rather than averaging the totals, UPS proposes averaging the ratios. This provides an erroneous answer (46.06 percent) because it provides too much weight to the small amount of hours in the first quarter (with a high PA ratio) and too little weight to the large amount of hours in the third quarter (with a low PA ratio). In other words, the UPS approach fails to accurately represent the true patterns of PA and Total hours throughout the year. Although there

³ If one takes the average quarterly PA Hours (6.5) and divides it by the average quarterly Total Hours (14.5), one gets the same result.

are no explicit weights in this example, the same result holds for weighted averages, as we will see in the next example.⁴

Now suppose an alternative scenario, in which the same PA hours and total hours are recorded as in the above table, but in this instance there are an unequal number of observations in each quarter, and the relative number of observations can be derived from an external data set. As UPS proposes, in this scenario, those observation proportions could be used as weights to adjust the hours in the table above for the proportion of observations taken each quarter.

	Q1	Q2	Q3	Q4
Proportion of Observations	30%	25%	15%	30%
Weighted PA Hours	1.5	2	0.9	2.1
Weighted Total Hours	3	3.5	2.7	4.8

Once again, one can correctly calculate the annual ratio of parcel hours by finding the ratio of the weighted sums (or averages), and that weighted average (as calculated in the attached spreadsheet) is 46.43 percent. Note that the weighted levels in this scenario produce a higher average than the average that would be generated by the same recorded hours without any attempt to take into account the observational proportions. Applying weights to the levels does, in fact, “do something.” The higher average occurs because the third quarter, with the lowest proportion of PA hours, is

⁴ Alternatively, however, one could also think of this first example as a weighted average in which all the weights equal 0.25, because there is an equal distribution of observations across all quarters in this scenario.

reduced in weight relative to the other quarters because it has relatively few observations.

Now consider the application of the proposed UPS procedure. Each of the ratios, from the first table above, is multiplied by the applicable weight. As shown in the attached spreadsheet, the proposed UPS procedure again produces an overstated annual ratio because it mis-weights the quarterly ratios. The erroneous UPS procedure would generate a result of 47.41 percent, instead of the correct result of 46.43 percent.

In sum, the protestations by UPS about the appropriate method of weighting are without merit. As the Postal Service originally stated, the correct method of weighting (if weighting is deemed necessary) is to apply the weights to the levels of hours and then to calculate the parcel delivery ratio, rather than averaging the weighted ratios. In reality, however, weighting should not be deemed necessary because, as already demonstrated in the Postal Service's earlier reply comments, either weighting scheme proposed by UPS has no material impact on the estimated growth rate once the fundamental arithmetic error committed by UPS in the application of the weights is corrected. Postal Service Reply Comments at 6-7.⁵ In other words, what UPS is proposing has virtually nothing to do with an appropriate adjustment for seasonality, and everything to do with creating an opportunity to misapply weights and thereby generate an apparently material adjustment in the calculation.⁶

⁵ Specifically, as indicated on those pages of the earlier reply, compared with the Proposal Four growth rate estimate of 33.4 percent, correct application of the IOCS weighting would only reduce that growth rate estimate very slightly to 33.2 percent, and correct application of the delivery day (DD) method would only increase it even more slightly to 33.5 percent.

⁶ The impact of the erroneous calculation advocated by UPS on parcel products would be material. In its initial comments, UPS said that using its method would result in a

C. UPS seeks obsolete versions of Form 3999 data with no apparent utility.

Finally, UPS requests that the Postal Service provide a version of the Form 3999 dataset with masked ZIP Code identifiers including: 1) all route evaluations conducted during the fiscal year (possibly including more than one for some routes), 2) the most recent route evaluation for those routes that were not evaluated during the most recent fiscal year. UPS Reply Comments at 9, note 16. UPS further claims that, since the Postal Service maintains an archive of Form 3999s, extracting these data should be a relatively simple extraction. *Id.* at 10. However, UPS fails to make a compelling argument as to the benefits or utility of providing all route evaluations conducted during the fiscal year.⁷ The established method is for the cost pool proportions to be based on the latest set of Form 3999s conducted over the previous two fiscal years. Currently, the latest set of Form 3999s by route is conveniently available using Excel. Because the additional information requested by UPS does not assist in constructing the required cost pools, it is superfluous and unnecessary, and accordingly should not be required.

“slight” increase in the implied growth of DPA time between FY 2014 and FY 2016 from 33.4 percent to 36.4 percent. UPS Initial Comments at 7 (August 9, 2017). The slight growth cited by UPS is approximately a nine percent additional increase in DPA time since FY 2014. This translates, in aggregate, into approximately an additional \$36.9 M assigned to the aggregate of DPA and IR costs and a corresponding \$36.9 M decrease regular delivery time costs. The Postal Service would not, in this context, consider that a slight increase, but more importantly, it should be rejected because it is based on a flawed and clearly erroneous calculation of an average.

⁷ UPS mistakenly insists on page 9 that it is asking “only for a single version of Form 3999 data,” but if a route were evaluated more than once in a year, UPS is clearly seeking multiple versions of the data for that route, including the version superseded by the later evaluation.

In conclusion, notwithstanding the arguments made by UPS in its reply comments, Proposal Four should be approved without modification.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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